

Notice of Allowability

Application No.

10/633,930

Examiner

Chuc D Tran

Applicant(s)

CROSWELL ET AL.

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/4/03.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☒ The drawings filed on 04 August 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 8/4/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Don Wong
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-38 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the references of the Prior Art of record fails to teach or suggest the combinations of the limitations as set forth in the claim: a plurality of dipole antenna elements on the first surface and at least a portion of at least one dipole antenna element on the second surface, and each dipole antenna element comprising the limitation of a medial feed portion and a pair of legs extending outwardly therefrom, and adjacent legs of adjacent dipole antenna elements including respective spaced apart end portions having predetermined shapes and relative positioning for providing increased capacitive coupling between the adjacent dipole antenna elements.

Regarding claims 2-18 are allowable for the reason given in the claim 1 because of their dependency status from the claim 1.

Regarding claim 19, the reference of the Prior Art of record fails to teach or suggest the combinations of the limitations as set forth in the claim: a plurality of dipole antenna elements on the first surface and the second surfaces, each dipole antenna element comprising a medial feed portion and a pair of legs extending outwardly therefrom, and specifically comprising the limitation of a respective load connected to the medial feed portion of said plurality of dipole antenna elements on the second surfaces.

Regarding claim 20-27 are allowable for the reason given in the claim 19 because of their dependency status from the claim 19.

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Regarding claim 28, the references of the Prior Art of record fails to teach or suggest the combinations of the limitations as set forth in the claim: a method of forming a plurality of dipole antenna elements on the first surface and at least a portion of at least one dipole antenna element on the second surface, and specifically each dipole antenna element comprising the limitation of a medial feed portion and a pair of legs extending outwardly therefrom, and adjacent legs of adjacent dipole antenna elements on the first and second surfaces including respective spaced apart end portions having predetermined shapes and relative positioning for providing increased capacitive coupling between the adjacent dipole antenna elements.

Regarding claims 29-38 are allowable for the reason given in the claim 28 because of their dependency status from the claim 28.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of relevant Prior Art

Prior Art Taylor et al (USP. 6,512,487) disclose wideband phased array antenna.

Prior Art Rawnick et al (USP. 6,771,221) disclose enhanced bandwidth dual layer current sheet antenna.

Prior Art Durham (USP. 6,417,813) disclose feedthrough lens antenna and associated methods.

Prior Art Durham et al (USP. 6,822,616) disclose multi-layer capacitive coupling in phased array antennas.

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Prior Art Sanford (USP. 4,180,817) disclose serially connected microstrip antenna.

Prior Art Schwartz et al (USP. 4,180,818) disclose Doppler navigation microstrip slanted antenna.

Prior art Shoemaker (USP. 4,937,585) disclose microwave circuit module.

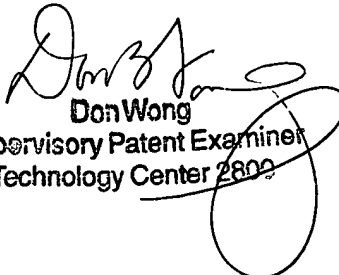
Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC
November 28, 2004


Don Wong
Supervisory Patent Examiner
Technology Center 2800